

## APPENDIX I

### SECTION 404 (B) (1) EVALUATION

## **SECTION 404(b)(1) EVALUATION DREDGED MATERIAL**

### **I. Project Description**

- a. Location. Tampa Harbor, Pinellas County, Florida.
- b. General Description. The Corps is proposing to place dredged material from the maintenance of Tampa Harbor along the shoreline of Egmont Key at the mouth of Tampa Bay, Florida.
- c. Authority and Purpose. The project is authorized by the Rivers and Harbors Act of December 31, 1970, House Document 401, 91<sup>st</sup> Congress, 2<sup>nd</sup> Session. . Since the initial maintenance, sand and sediments have periodically accumulated in the channel reducing the navigable capacity of the project. The navigation channel is used by ocean going vessels. The channel depths are reduced by sedimentation. In order to maintain the Federal standard, the channel must be dredged.
- d. General Description of Dredged or Fill Material
  - (1) General Characteristics of Material. The material would be sandy, shelly material with some fines.
  - (2) Quantity of Material. Approximately 250,000 cubic yards of dredged material excavated from the navigation entrance channel will be placed along the western beach of Egmont Key.
  - (3) Source of Material. . The excavated material to be placed in along the shoreline would be sediments shoaled in the Tampa Harbor entrance channel.
- e. Description of the Proposed Discharge Site.
  - (1) Size and Location. The placement area is the western two-thirds of the Egmont Key shoreline approximately 8,000 feet in length..
  - (2) Type of Site. The discharge site is the shoreline and shallow-water area.
  - (3) Type of Habitat. The discharge site is the beach and surf zone of the island.
  - (4) Timing and Duration of Discharge. The total maintenance dredging episode will last approximately 3 months.

f. Description of Disposal Method. The dredging would be conducted by a clam-shell, hydraulic or hopper dredge with pump-out capabilities

## II. Factual Determinations

### a. Physical Substrate Determinations.

(1) Substrate Elevation and Slope. The beach and surf zone are gently sloped areas.

(2) Sediment Type. Sediment analysis of the disposal site indicates that the bottom is composed of sand.

(3) Dredged/Fill Material Movement. The dredged material is placed in the littoral drift zone and will become part of the natural southward shift of beach sand. Two geo-textile tubes have been placed as groins to help retard movement of the sand along the island .

(4) Physical Effects on Benthos. Placement will result in the loss of benthic organisms at the placement site. These communities will reestablish quickly upon completion of work. Disruption of marine life at the placement area will be short term.

(5) Other Effects.. Standard manatee construction conditions will be required of all contractors. The work as proposed will not jeopardize protected species. No known historical properties will be affected by this project. The proposed work will result in some temporary disruption of normal vessel traffic in the harbor, but it's completion will have a favorable impact on the operation of the port with a resulting beneficial effect on the local and regional economy. Temporary degradation in water quality at the dredging and disposal sites will also occur

(6) Actions Taken to Minimize Impacts. The standard manatee protection conditions would also be employed to reduce potential for impacts. If a hopper dredge is used, conditions from the Gulf Regional Biological Opinion from National Marine Fisheries service will be implemented to protect sea turtles. Included in these is a dredging window from 1 December to 31 march, a NMFS approved observer, inflow screens and deflector draghead.

### b. Water Circulation, Fluctuation and Salinity Determinations

#### (1) Water

(a) Salinity. No impacts to salinity at disposal site.

(b) Water Chemistry. There will be no changes in water chemistry at the site.

(c) Clarity. There will be a temporary increase in turbidity level at the disposal site and immediately adjacent to the disposal area during the disposal operations.

(d) Color. Due to the minor silt content, there will be a brown turbidity plume associated with the discharge operations.

(e) Odor. There would be no odor problems associated with the dredged material since the material contains few organics and would not be exposed to the air.

(f) Taste. Not applicable.

(g) Dissolved Gas Levels. Not applicable.

(h) Nutrients. The material to be discharged is mainly sand with shell fragment, therefore no nutrients would be bound in the material and no release of nutrients would be anticipated.

(i) Eutrophication. No eutrophication is anticipated.

(2) Current Patterns and Circulation. Not applicable.

(3) Normal Water Level Fluctuations. Not applicable.

(4) Salinity Gradients. Not applicable.

(5) Actions That Will Be Taken to Minimize Impacts. The disposal site will be operated to maintain state water quality standards.

d. Suspended Particulate/Turbidity Determinations

(1) Expected Changes in Suspended Particulate and Turbidity Levels in Vicinity of Disposal Site. No changes are anticipated because the dredged material is sandy material containing few fines.

(2) Effects (degree and duration) on Chemical and Physical values

(a) Light penetration. Light penetration would be reduced during disposal operations. This would be short-term in duration and would not cause any significant adverse effects.

(b) Dissolved Oxygen. There would be no reduction in dissolved oxygen levels from the discharge of the sandy dredged material.

(c) Toxic Metals and Organics. No toxic materials are anticipated to be encountered.

(d) Pathogens. Not Applicable.

(e) Aesthetics. There will be an increase in noise levels and aesthetic degradation from the presence and operation of dredging equipment at the disposal site.

(f) Others as Appropriate. None.

(3) Effects on Biota (consider environmental values in sections 230.21, as appropriate)

(a) Primary Production, Photosynthesis. No photosynthesis occurs at this site.

(b) Suspension/Filter Feeders. Little or no impact is expected.

(c) Sight Feeders. Little or no impact is expected.

(4) Actions taken to Minimize Impacts. None required.

d. Contaminant Determinations. No contaminants have been previously encountered and therefore none are anticipated.

e. Aquatic Ecosystem and Organism Determinations

(1) Effects on Plankton. No significant effects.

(2) Effects on Benthos. No significant benthic populations are located in the disposal site and therefore no significant adverse impacts are anticipated.

(3) Effects on Nekton. None are anticipated.

(4) Effects on Aquatic Food Web. None are anticipated.

(5) Effects on Special Aquatic Sites. No special aquatic sites are located within the disposal site.

(a) Sanctuaries and Refuges. Not applicable.

(b) Wetlands. Not applicable.

(c) Mud Flats. Not applicable.

(d) Vegetated Shallows. None would be affected.

(e) Coral Reefs. Not applicable.

(f) Riffle and Pool Complexes. Not applicable.

(6) Threatened and Endangered Species. Sea turtle nesting could be affected by the work.

(7) Other Wildlife. Not applicable.

(8) Actions to Minimize Impacts. The standard manatee protection conditions would be employed. In addition, a sea turtle nest monitoring and relocation effort would be implemented. . If a hopper dredge is used, conditions from the Gulf Regional Biological Opinion from National Marine Fisheries service will be implemented to protect sea turtles. Included in these is a dredging window from 1 December to 31 march, a NMFS approved observer, inflow screens and deflector draghead.

f. Proposed Disposal Site Determinations

(1) Mixing Zone Determination. No mixing will likely occur due to the sandy nature of the dredged material, the shallow water and the small quantity of fines associated with the material.

(2) Determination of Compliance with Applicable Water Quality Standards. Water quality certification has been issued by the State. Monitoring of the discharge site will be conducted to insure State standards met.

(3) Potential Effects on Human Use Characteristic

- (a) Municipal and Private Water Supply. Not applicable.
- (b) Recreational and Commercial Fisheries. Not applicable
- (c) Water Related Recreation. Not applicable.
- (d) Aesthetics. The proposed discharge would increase noise and scenic degradation along the ocean front during disposal operations.
- (e) Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves. The State of Florida has requested our assistance to help preserve historical assets on the Egmont Key State Recreation Area by placing the dredged material along the shoreline.
- g. Determination of Cumulative Effects on the Aquatic Ecosystem. Since the bottom substrate is silty, the placement of an irregular sandy substrate would provide additional diversity to the area. It would also create potential substrate for seagrass bed colonization.
- h. Determination of Secondary Effects on the Aquatic Ecosystem. Not applicable.